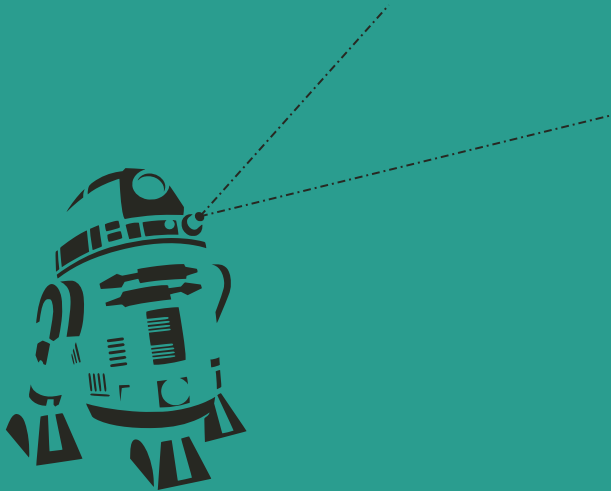# Introduction to Machine Learning

Albert Ruiz

What was the first Machine Learning application?

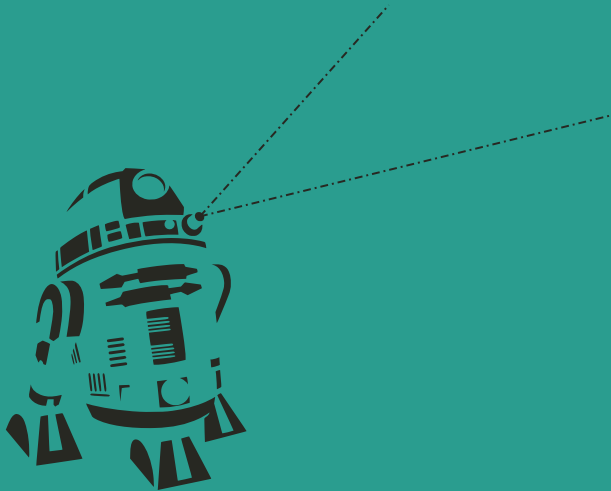# First ML application: the spam filter
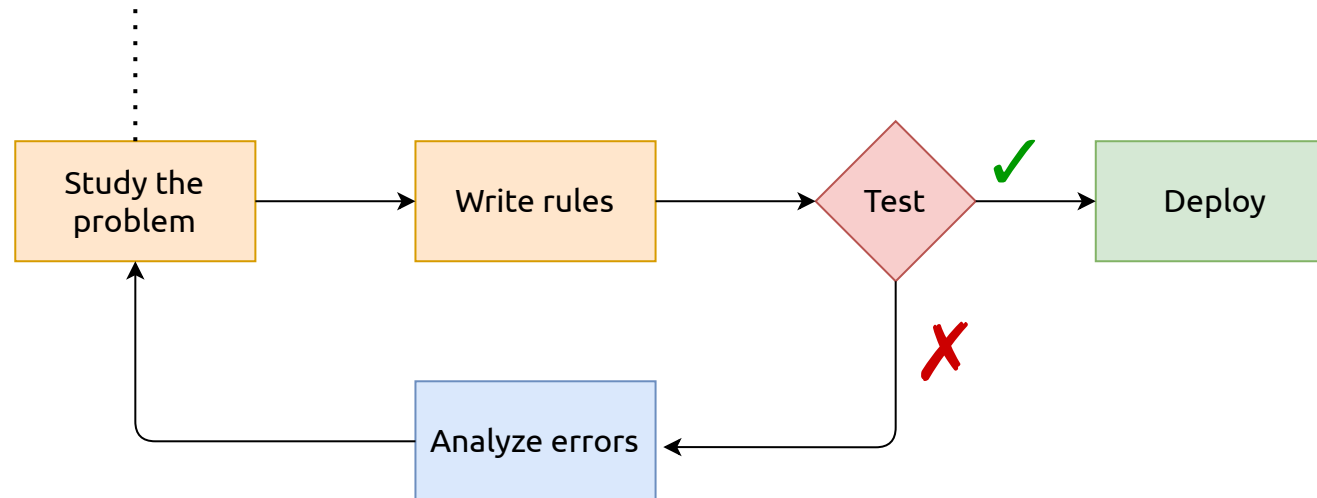
Ham or Spam?

✔

✘

How would you code a spam filter?

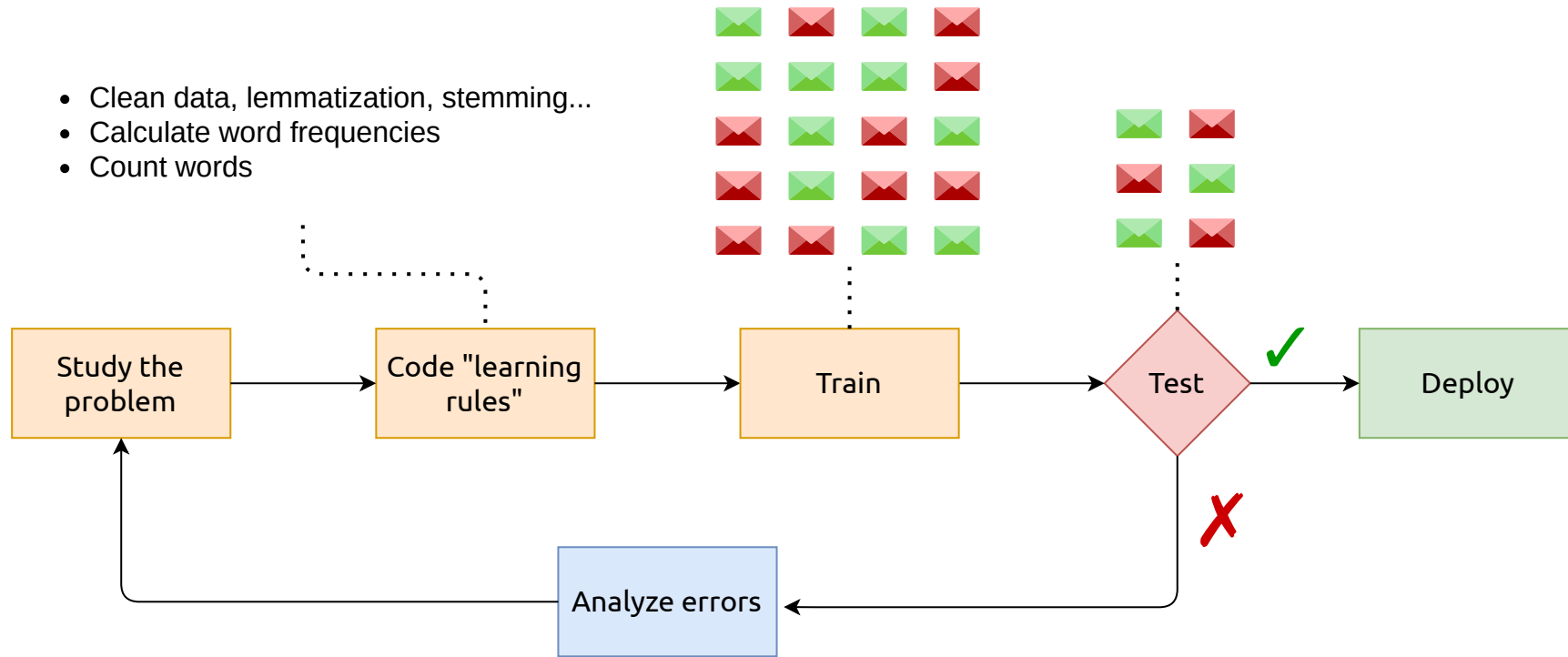# Coding a spam filter: traditional approach

Developer does (example):

- Find common words: IBAN , discount , offer , bank , password ...
- Find patterns in introductory phrases: Dear Sir/Madam , Mr/Mrs/Miss ...
- Find patterns in email addresses: @hacker.com , @no-reply.com ...
- Calculate weights

Coding a spam filter: ML approach

- Clean data, lemmatization, stemming...
- Calculate word frequencies
- Count words

What are we going to learn today?

Agenda

1. Introduction (5 min)

    - What is ML?
    - Why ML?
    - ML in insurance

2. End-to-end ML (45 min)

    - Data
    - Pre-processing
    - Vectorization
    - Modelling
    - Visualization

3. Hands-on ML (practice, 1h)

Introduction

What is ML?

Machine learning is the field of study that gives computers the ability to learn without being explicitly programmed.
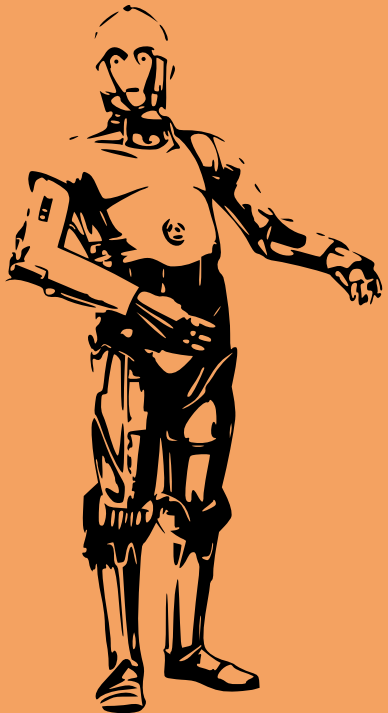
[Arthur L. Samuel, 1959]

ML, DS and AI

ML applied to the insurance sector

Common steps sin a ML project

Hands-on ML (practice)

Questions?

(albert.ruizalvarez@zurich.com)

Thank you!